



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/784,151

02/24/2004

Akira Fukunaga

2004-0173

8287

513 7590 01/17/2007
WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

ZHENG, LOIS L

ART UNIT

PAPER NUMBER

1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

01/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/784,151	FUKUNAGA ET AL.	
	Examiner	Art Unit	
	Lois Zheng	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/994,755.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/24/04, 7/30/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-4 are currently under examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Eckles et al. US 4,326,940(Eckles).

Eckles teaches an electroplating apparatus comprising a plating unit having a plating bath, an analyzer comprising a high pressure liquid chromatography column and a data acquisition and utilization unit having a minicomputer/controller(col. 3 line 54 – col. 4 line 28). Eckles further teaches a solvent delivery system for replenishing solvents including additives from solvent tanks to the plating bath based on the output from the minicomputer/controller(col. 7 line 36 – col. 8 line 21, col. 10 lines 50-52).

Regarding claim 1, analyzer as taught by Eckles reads on the claimed plating liquid monitoring unit. The data acquisition and utilization unit having a minicomputer/controller as taught by Eckles reads on the claimed arithmetical unit. The solvent delivery system reads as taught by Eckles reads on the claimed additive replenishing unit.

In addition, the languages "for hold a plating liquid", "for separating and quantifying an additive in a sample of plating liquid", "for comparing a quantified value of said additive with a given concentration predetermined for said additive and producing an output signal representing the compared result" and "for addition a solution including said additive from an additive tank to the plating liquid in said plating bath based on said output signal from said arithmetical unit in said plating liquid monitoring unit" are merely describing the intended use for the instantly claimed plating unit, the plating liquid monitoring unit, the claimed arithmetical unit and the claimed additive replenishing unit. Without providing structure limitations to the instant invention, these intended use languages do not lend patentability to the instantly claimed apparatus.

Furthermore, the plating unit, the analyzer, the data acquisition and utilization unit and the solvent delivery system as taught by Eckles are capable of performing the claimed intended functions.

Regarding claim 3, the claimed sulfuric acid copper plating liquid as claimed does not render the instant apparatus claim patentable since the plating liquid is a material being worked on by the claimed apparatus. It is well settled that "expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim". Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." In re Young, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). See MPEP 2115 [R-2].

In addition, the claimed ionic components being removed from the plating liquid in advance before the additive is quantified relates to how the claimed apparatus is being operated. It is well settled that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). Therefore, the recitation of the removal of ionic components does not differentiate the claimed apparatus from the apparatus of Eckles.

Regarding claim 4, the claimed types of additives do not render the instant apparatus claim patentable since the claimed additives are materials being worked on by the claimed apparatus. See rejection of claim 3 above and MPEP 2115[R-2].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eckles in view of Zambias et al. US 6,210,571 B1(Zambias).

The teachings of Eckles are discussed in paragraph 3 above. However, Eckles does not teach that its liquid chromatography device comprises an evaporative light-scattering detector as claimed.

Art Unit: 1742

Zambias teaches an automated on-line evaporating light scattering detector used to determine the total mass of each of the compounds in a liquid sample(col. 2 lines 5-20).

Regarding claim 2, it would have been obvious to one of ordinary skill in the art to have incorporated the evaporating light scatter detector as taught by Zambias into the liquid chromatography column of Eckles since Zambias teaches that the evaporative light scatter detection is advantageous due to its mass dependency and generation of uniform chromatographic signals over a wide range of different chemical structures (col. 3 lines 55-64).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LLZ



ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700